



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
19.08.2009 Bulletin 2009/34

(51) Int Cl.:
H04N 13/04 (2006.01)

(43) Date of publication A2:
28.07.2004 Bulletin 2004/31

(21) Application number: **04250329.2**

(22) Date of filing: **22.01.2004**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
Designated Extension States:
AL LT LV MK

(30) Priority: **24.01.2003 JP 2003016668**

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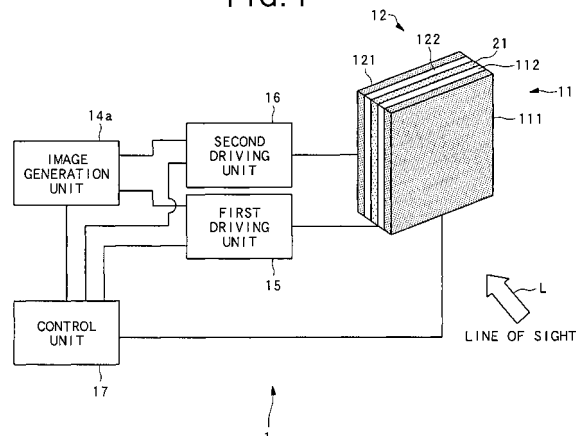
(54) **Apparatus for displaying three-dimensional image**

(57) An apparatus for displaying a three-dimensional image of an object to be displayed, through a superimposing of a plurality of images of the object, which are placed so as to be apart from each other on a line of sight of an observer, comprises: a first luminescent display unit; a second luminescent display unit; and a bonding member. The first display unit has a first screen. The second display unit is disposed so as to face the first display unit. The second display unit has the second screen, which is light-transmissible. The bonding member connects the first display unit and the second display unit with each other. The bonding member has a light transmission property and is a bonding agent with which a space between the first display unit and the second display unit is filled.

The refractive indexes of the different layers composing the display units and the bonding member are predetermined so as to reduce the reflection of light emitted from

a rear display unit on the subsequent layers.

FIG. 1





EUROPEAN SEARCH REPORT

Application Number
EP 04 25 0329

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 2002/105516 A1 (TRACY THOMAS M [US]) 8 August 2002 (2002-08-08)	1-8, 10-13	INV. H04N13/04
A	* abstract; figures 1-3 * * paragraphs [0002], [0008], [0009], [0032], [0037] *	9	
X	----- US 5 113 272 A (REAMEY ROBERT H [US]) 12 May 1992 (1992-05-12)	1	
Y	* abstract; figures 4a,5,6 * * column 5, line 65 - column 7, line 19 *	1-8, 10-13	
X	----- US 2002/113753 A1 (SULLIVAN ALAN [US] ET AL) 22 August 2002 (2002-08-22)	1	
Y	* abstract; figures 1,2,7-10 * * paragraphs [0036], [0038], [0039], [0041], [0072] *	1-8, 10-13	
A	----- US 5 986 401 A (THOMPSON MARK E [US] ET AL) 16 November 1999 (1999-11-16)	2,7	TECHNICAL FIELDS SEARCHED (IPC)
A	----- WO 00/29779 A (UNIV CALIFORNIA [US]; YANG YANG [US]; CHANG SHUN CHI [US]) 25 May 2000 (2000-05-25)	2,7	H04N G02B
A	----- JP 2000 100559 A (MATSUSHITA ELECTRIC IND CO LTD) 7 April 2000 (2000-04-07)	2,7	
	----- * abstract; figure 1 *		
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 6 July 2009	Examiner Mao, Pauline
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

 2
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 25 0329

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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06-07-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002105516 A1	08-08-2002	NONE	
US 5113272 A	12-05-1992	AT 122157 T CA 2075807 A1 DE 69109471 D1 DE 69109471 T2 EP 0515533 A1 JP 5504210 T WO 9112554 A1	15-05-1995 13-08-1991 08-06-1995 01-02-1996 02-12-1992 01-07-1993 22-08-1991
US 2002113753 A1	22-08-2002	NONE	
US 5986401 A	16-11-1999	NONE	
WO 0029779 A	25-05-2000	AU 1524600 A	05-06-2000
JP 2000100559 A	07-04-2000	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82